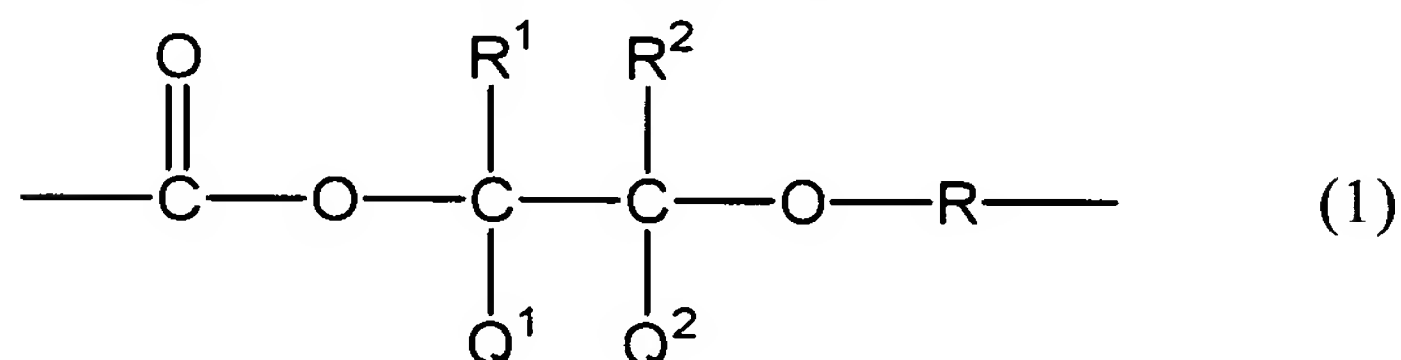


WHAT IS CLAIMED IS:

1. A polycarbonate or polyester having in its backbone a unit represented by the following formula:



5 wherein, either one of Q^1 or Q^2 is a side chain having a reactive silicon-containing group,

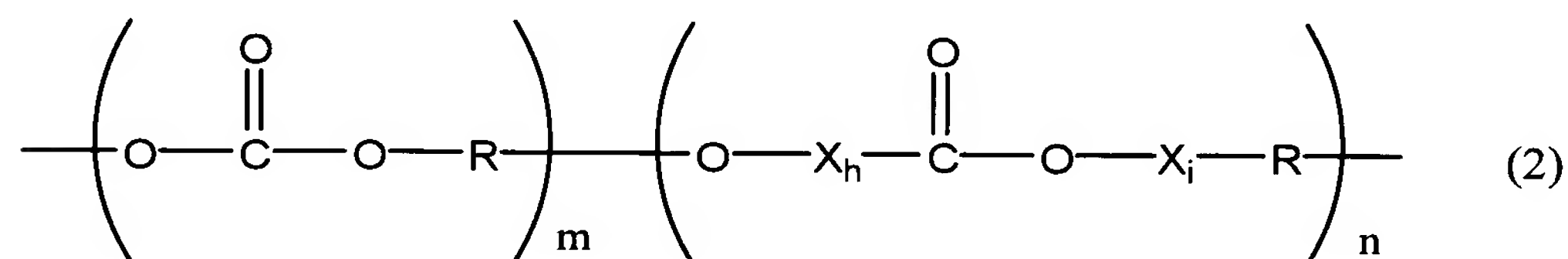
the other of Q^1 or Q^2 , and R^1 , R^2 are each independently a hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the group being may have a substituted group or atom,

10 Q^1 and Q^2 may be taken together to form a ring,

R^1 and R^2 may be taken together to form a ring, and

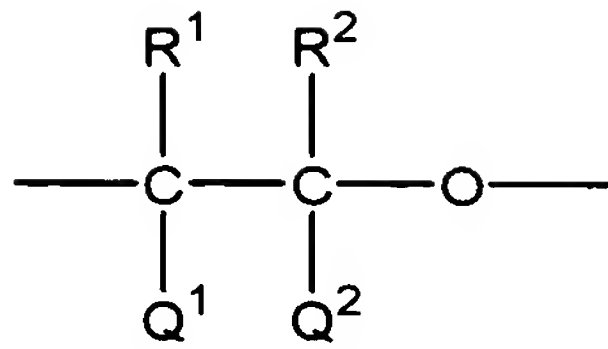
R is a bivalent group of alkylene group, arylene group or combination thereof.

15 2. A polycarbonate having a repeating unit represented by the following formula



wherein, each R is independently a bivalent group of alkylene group, arylene group or combination thereof, and

X is a unit represented by the following formula



wherein, either Q¹ or Q² is a side chain having a reactive silicon-containing group,

the other of Q¹ or Q², and R¹, R² are each independently hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the groups may have a substituted group or atom, Q¹ and Q² may be taken together to form a ring,

R¹ and R² may be taken together to form a ring, and

h and i are each independently 0 or 1, excepting both h and i are 0,

m is an integer not less than 0, and

n is an integer not less than 1.

3. A polycarbonate according to Claim 2, wherein said R is

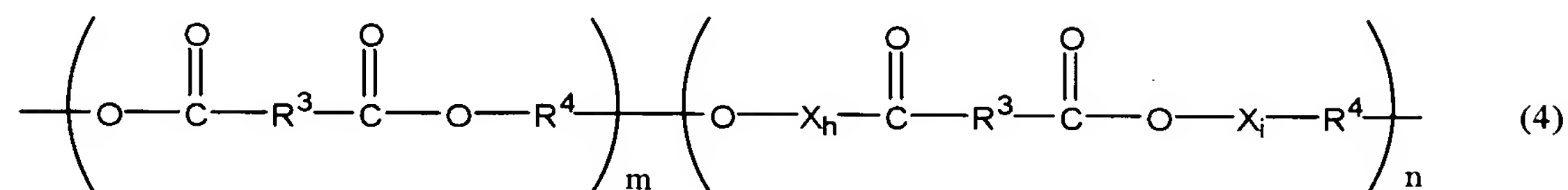
independently a bivalent group of linear or branched alkylene group having 1 to 20 carbon atoms, arylene group having 3 to 20 carbon atoms or combination thereof, and

the other of said Q¹ or Q², and R¹, R² are each independently hydrogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aroyl group having 6 to 20 carbon atoms or an aralkyl group having 6 to 20 carbon atoms, wherein the groups may have a substituted group or atom,

Q¹ and Q² may be taken together to form a ring, and

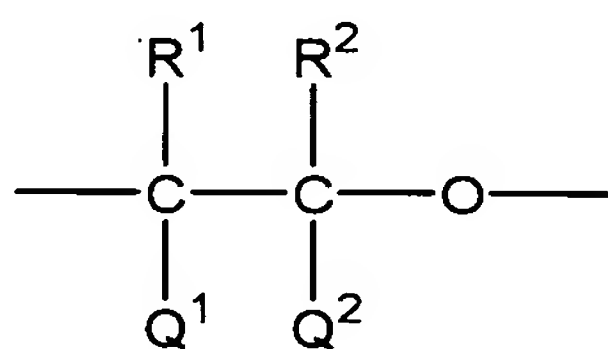
R¹ and R² may be taken together to form a ring.

4. A polyester comprising a repeating unit represented by the following formula



5 wherein, R^3 and R^4 are each independently a bivalent group of alkylene group, arylene group or combination thereof, and

X is a unit represented by the following formula



wherein, either Q^1 or Q^2 is a side chain having a reactive silicon-containing group,

the other of Q^1 or Q^2 , and R^1 , R^2 are each independently hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the groups may have a substituted group or atom, Q^1 and Q^2 may be taken together to form a ring,

R^1 and R^2 may be taken together to form a ring, and

h and i are each independently 0 or 1, excepting both h and i are 0,

m is an integer not less than 0, and

n is an integer not less than 1.

5. A polyester according to Claim 4, wherein said R^3 and R^4 are each independently a bivalent group of linear or branched alkylene group having 1 to

20 carbon atoms, arylene group having 3 to 20 carbon atoms or combination thereof, and

the other of said Q¹ or Q², and R¹, R² are each independently hydrogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aroyl group having 6 to 20 carbon atoms or an aralkyl group having 6 to 20 carbon atoms, wherein the groups may have a substituted group or atom,

Q¹ and Q² may be taken together to form a ring, and

R¹ and R² may be taken together to form a ring.

6. A polycarbonate or polyester according to any one of Claims 1 to 5, wherein said reactive silicon-containing group is alkoxysilyl group.

7. A polycarbonate or polyester according to any one of Claims 1 to 5, wherein said side chain having a reactive silicon-containing group comprises a structure represented by the following formula



wherein, L¹ is a binding group,

R⁵ is hydrogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aralkyl group having 6 to 20 carbon atoms, acetyl or acetoacetyl group,

R⁶ is hydrogen or halogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aralkyl group having 6 to 20 carbon atoms, and

p is an integer of 1 to 3.

8. A method for preparing a polycarbonate or polyester having reactive silicon-containing groups, comprising the step of:

inserting an oxirane compound having a reactive silicon-containing group into an ester-bond of a polycarbonate or polyester which exists in its main chain.

9. A method for preparing a polycarbonate or polyester comprising reactive silicon-containing groups, comprising the steps of:

inserting an oxirane compound having an unsaturated bond-containing group into an ester-bond of a polycarbonate or polyester which exists in its main chain, and

reacting a obtained unsaturated group in the polycarbonate or polyester with a silicon compound having a reactive silicon-containing group in a hydrosilylation process.

10. A polycarbonate or polyester comprising reactive silicon-containing groups, which is obtainable from the method according to Claim 8 or 9.

11. A method for preparing an organic-inorganic hybrid polymeric material, comprising the step of:

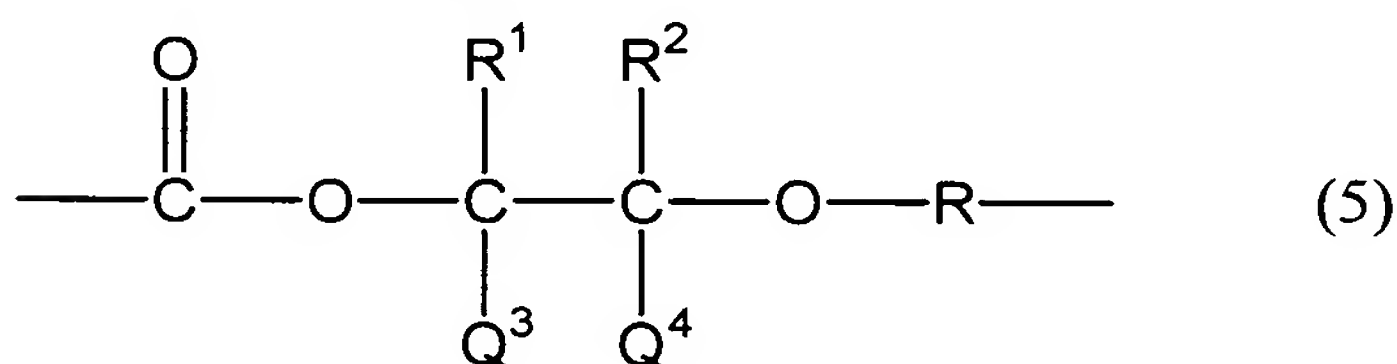
hydrolyzing and polycondensing the polycarbonate or polyester having reactive silicon-containing groups according to any one of Claims 1 to 7 or Claim 10.

12. A method for preparing an organic-inorganic hybrid polymeric material, comprising the step of:

hydrolyzing and polycondensing the polycarbonate or polyester having reactive silicon-containing groups of any one of Claims 1 to 7 or Claim 10 in the presence of a metal, a metal alkoxide compound, a metal oxide, a metal complex or an inorganic salt selected from the group consisting of Si, Ti, Zr, Al, Fe, Cu, Sn, B, Ge, Ce, Ta and W.

13. An organic-inorganic hybrid polymeric material, which is obtainable from the method according to Claim 11 or 12.

14. A polycarbonate or polyester comprising a unit represented by the following formula



wherein, either Q³ or Q⁴ is a side chain having a carbon-carbon unsaturated bond-containing group,

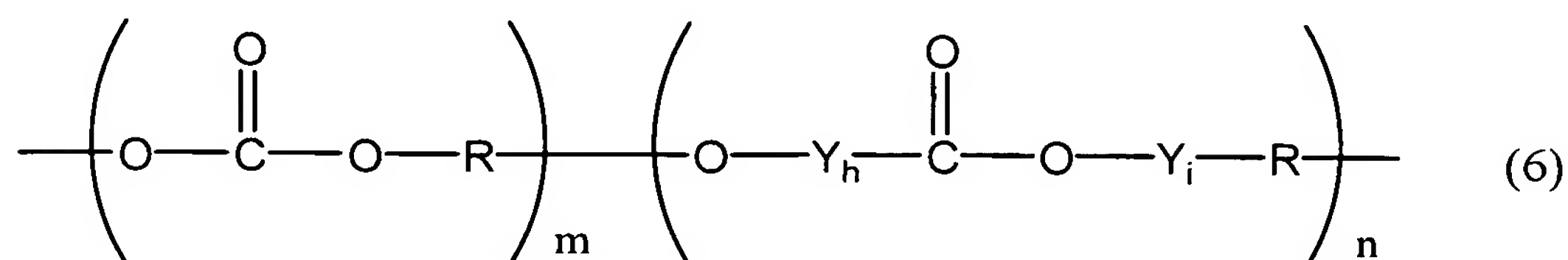
the other of Q³ or Q⁴, and R¹, R² are each independently hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the groups may have a substituted group or atom,

Q³ or Q⁴ may be taken together to form a ring,

R¹ and R² may be taken together to form a ring, and

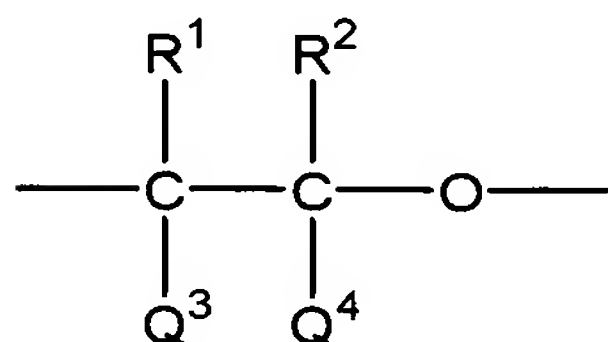
R is a bivalent group of alkylene group, arylene group or combination thereof.

15. A polycarbonate comprising a repeating unit represented by the following formula



wherein, each R is independently a bivalent group of alkylene group, arylene group or combination thereof, and

Y is a unit represented by the following formula



wherein, either Q³ or Q⁴ is a side chain having a carbon-carbon unsaturated bond-containing group,

the other of Q³ or Q⁴, and R¹, R² are each independently hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the groups may have a substituted group or atom, Q³ or Q⁴ may be taken together to form a ring,

R¹ and R² may be taken together to form a ring, and

h and i are each independently 0 or 1, excepting both h and i are 0,

m is an integer not less than 0, and

n is an integer not less than 1.

16. A polycarbonate according to Claim 15, wherein said R is independently a bivalent group of linear or branched alkylene group having 1 to 20 carbon atoms, arylene group having 3 to 20 carbon atoms or combination

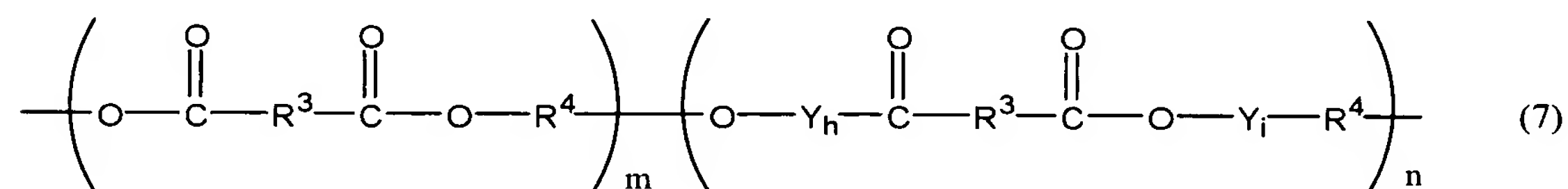
thereof, and

the other of said Q^3 or Q^4 , and R^1 , R^2 are each independently hydrogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aroyl group having 6 to 20 carbon atoms or an aralkyl group having 6 to 20 carbon atoms, wherein the groups may have a substituted group or atom,

Q^3 or Q^4 may be taken together to form a ring, and

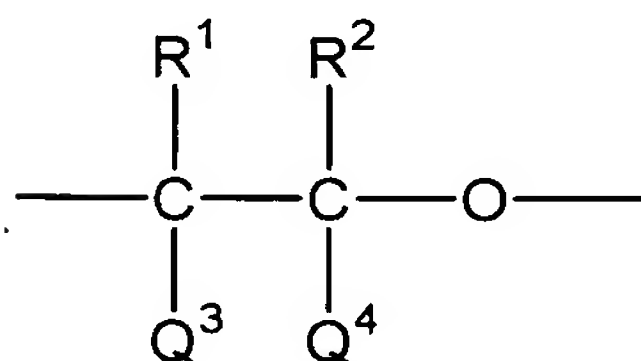
R^1 and R^2 may be taken together to form a ring.

17. A polyester comprising a repeating unit represented by the following formula



wherein, R^3 and R^4 are each independently a bivalent group of alkylene group, arylene group or combination thereof, and

Y is a unit represented by the following formula



wherein, either Q^3 or Q^4 is a side chain having a carbon-carbon unsaturated bond-containing group,

the other of Q^3 or Q^4 , and R^1 , R^2 are each independently hydrogen atom, or an alkyl group, an aryl group, an aroyl group or an aralkyl group, wherein the groups may have a substituted group or atom,

Q^3 or Q^4 may be taken together to form a ring,

R^1 and R^2 may be taken together to form a ring, and

h and i are each independently 0 or 1, excepting both h and i are 0,

m is an integer not less than 0, and

5 n is an integer not less than 1.

18. A polyester according to Claim 17, wherein said R^3 and R^4 are each independently a bivalent group of linear or branched alkylene group having 1 to 20 carbon atoms, arylene group having 3 to 20 carbon atoms or
10 combination thereof, and
the other of said Q^3 or Q^4 , and R^1 , R^2 are each independently hydrogen atom, or an alkyl group having 1 to 12 carbon atoms, an aryl group having 6 to 20 carbon atoms, an aroyl group having 6 to 20 carbon atoms or an aralkyl group having 6 to 20 carbon atoms, wherein the groups may have a substituted group
15 or atom,
 Q^3 or Q^4 may be taken together to form a ring, and
 R^1 and R^2 may be taken together to form a ring.

19. A polycarbonate or polyester according to any one of Claims 14 to
20 18, wherein said carbon-carbon unsaturated bond-containing group is a group selected from the group consisting of a vinyl group, a methacryl group, an allyl group, an acryl group and an ethynyl group.

20. A polycarbonate or polyester according to any one of Claims 14 to
25 18, wherein said carbon-carbon unsaturated bond-containing group is a vinyl

group, a methacryl group, an allyl group or an ethynyl group.

21. A method for preparing a polycarbonate or polyester having carbon-carbon unsaturated bond-containing groups, comprising the step of:

5 inserting a oxirane compound having a carbon-carbon unsaturated bond-containing group into an ester-bond of a polycarbonate or polyester which exists in its main chain.

22. A method for preparing a polycarbonate or polyester having
10 carbon-carbon unsaturated bond-containing groups according to Claim 21, wherein said inserting step is performed by heat melting of the materials in a kneading machine.

23. A method for preparing a polycarbonate or polyester having
15 carbon-carbon unsaturated bond-containing groups according to Claim 22, wherein said kneading machine is a twin screw extruder.

24. A polycarbonate or polyester having carbon-carbon unsaturated bond-containing groups, which is obtainable from the method according to any
20 one of Claims 21 to 23.

25. A polycarbonate or polyester which is grafted with a vinyl group, a methacryl group, an allyl group or an ethynyl group, which is obtainable from the step of inserting a oxirane compound having a carbon-carbon unsaturated
25 bond-containing group into an ester-bond of a polycarbonate or polyester which

exists in its main chain.